

AMENDMENTS TO THE CLAIMS

Please **AMEND** the claims as shown below.

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-13. (Canceled)

14. (Currently Amended) an optical device for an optical pickup apparatus for recording or reproducing information with respect to an information recording medium, comprising:

a substrate;

a hologram element to diffract incident beams of first and second wavelengths that are different from each other;

a light receiving element arranged on the substrate and having a first light receiving region to receive an incident beam of the first wavelength diffracted by the hologram element and a second light receiving region to receive an incident beam of the second wavelength diffracted by the hologram element; and

an operation unit, wherein if the wavelength of an incident beam is one wavelength of either the first or second wavelengths, carries out a subtraction operation between the signal of the first light receiving region and the signal of the second light receiving region that receives unnecessary light scattering over the substrate including the first and second light receiving regions, removes a signal component representative of the unnecessary light from the signal from the first light receiving region and outputs the detection signal representative of the first light

wavelength, if the one wavelength is the first wavelength, and carries out a subtraction operation between the signal of the second light receiving region and the signal of the first light receiving region that receives unnecessary light scattering over the substrate including the first and second light receiving regions, removes a signal component representative of the unnecessary light from the signal from the second light receiving region and outputs the detection signal representative of the second light wavelength, if the one wavelength is the second wavelength.

~~an operation unit to find a difference between a signal from one of the first and second light receiving regions that receives an incident beam of one of the first and second wavelengths made incident to and diffracted by the hologram element and a signal from the other of the first and second light receiving regions that does not receive the incident beam of the one wavelength made incident to and diffracted by the hologram element and receives unnecessary light scattering over the substrate including the first and second light receiving regions, and based on the found difference, remove a signal component representative of the unnecessary light from the signal from the one light receiving region.~~

15. (Previously Presented) The optical device as set forth in claim 14, wherein the first light receiving region and second light receiving region have a nearly equal light receiving area.

16. (Canceled).

17. (Currently Amended) The optical device as set forth in claim 14, comprising:

determination means for determining whether the wavelength of the incident beam is the first wavelength or the second wavelength, wherein the operation unit outputs the detection signal representative of the wavelength determined by the determination means. ; and

~~polarity switching means for inverting the polarity of an output signal from the operation means between a first polarity and a second polarity according to a result of determination made by the determination means, when the determination means determines that the incident beam is of the first wavelength, the polarity switching means switching the polarity of the output signal of the operation unit to the first polarity to provide an operation result of $(S1 - S2)$ from the signal S1 of the first light receiving region and the signal S2 of the second light receiving region, when the determination means determines that the incident beam is of the second wavelength, the polarity switching means switching the polarity of the output signal of the operation unit to the second polarity to provide an operation result of $(-1) \times (S1 - S2)$ from the signal S1 of the first light receiving region and the signal S2 of the second light receiving region.~~

18. (Previously Presented) The optical device as set forth in claim 14, wherein the incident beams of the first and second wavelengths that are different from each other are main beams emitted toward the information recording medium to detect information from the information recording medium and reflected by the information recording medium; and

the operation unit removes the signal component representative of the unnecessary light from the signal of the one light receiving region that receives the reflected main beam diffracted by the hologram element.

19. (Previously Presented) The optical device as set forth in claim 14, wherein the incident beams of the first and second wavelengths that are different from each other are sub-beams emitted toward the information recording medium to carry out a tracking operation of a track on the information recording medium and reflected by the information recording medium; and

the operation unit removes the signal component representative of the unnecessary light from the signal of the one light receiving region that receives the reflected sub-beam diffracted by the hologram element.

20. (Previously Presented) The optical device as set forth in claim 14, wherein the hologram element is divided into first and second regions having different diffraction axes; and

each of the first and second light receiving regions has a light receiving region to receive a diffracted beam from the first region of the hologram element and a light receiving region to receive a diffracted beam from the second region of the hologram element.

21. (Previously Presented) The optical device as set forth in claim 14, wherein the first wavelength is in a 650-nm band and the second wavelength is in a 780-nm band.

22. (Previously Presented) The optical device as set forth in claim 14, wherein at least one of a first light source for emitting light of the first wavelength and a second light source for emitting light of the second wavelength is arranged on the substrate.

23. (Currently Amended) ~~An optical pickup apparatus comprising: the~~ The optical device as set forth in claim 21[[:]], comprising:

- a first light source for emitting light of the first wavelength; and
- a second light source for emitting light of the second wavelength.

24. (Previously Presented) The optical pickup apparatus as set forth in claim 23, comprising:

- a first diffraction grating to divide light of the first wavelength from the first light source into a main beam and two sub-beams; and
- a second diffraction grating arranged in the optical device, to divide light of the second wavelength from the second light source into a main beam and two sub-beams.

25. (Previously Presented) The optical pickup apparatus of claim 23, comprising:

- a first diffraction grating arranged in the optical device, to divide light of the first wavelength from the first light source into a main beam and two sub-beams; and
- a second diffraction grating to divide light of the second wavelength from the second light source into a main beam and two sub-beams.